

ENCRYPTION METHODS FOR TMDS

ABSTRACT OF THE DISCLOSURE

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The present invention is directed to systems and methods for protecting digital content during transmission. One version of the invention provides a method for encryption in a high-speed digital video transmission system that includes the steps of: a) performing transition controlled encoding of a first sequence of n bit data words into encoded $n+1$ bit data characters where the n is a positive integer, b) performing XOR masking of the encoded $n+1$ bit data characters with an XOR mask to produce masked $n+1$ bit data characters; c) DC balancing the masked $n+1$ bit data characters to produce DC balanced, masked $n+2$ bit data characters; d) scrambling the DC balanced, masked $n+2$ bit data characters using a scrambling formula to produce encrypted $n+2$ bit data characters; e) encoding control data into encoded $n+2$ bit control characters, f) generating a serial data stream in response to the encrypted data characters and encoded control characters, and g) transmitting the serial data stream over a communication link. Subsequent to step (e) and prior to step (f), the method can further include the step of encrypting the encoded $n+2$ bit control characters, such that the generating step generates a serial data stream in response to the encrypted data characters and the encrypted control characters.

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